WITH THE CORN BORER

Issued in the interest of corn-borer control conducted by the United States Department of Agriculture in cooperation with the State departments of agriculture and State agricultural colleges in New York, Pennsylvania, Ohio, Michigan, and Indiana.

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PENNSYLVANIA CLEAN-UP

Beginning April 1, every farm in Erie, Crawford, and Mercer Counties, and part of Warren County will be visited by inspectors of the Pennsylvania or United States Department of Agriculture who will explain in detail to each farmer the requirements of the spring corn-borer clean-up.

It is planned to have the inspectors return to each farm about a month later to determine if the proper disposal has been made of all corn refuse that might carry the corn borer. Notices will be given to all farmers who have failed to meet the requirements and they will be given a certain time in which to do the necessary work. If they still refuse or neglect to do it, the clean-up will be conducted under State authority. The cost of the clean-up will be assessed the owner.

The farmers who did not come up to the requirements last spring will be given special attention this spring in an attempt to obtain cooperation from all the farmers in the area.

CAMPAIGN PROGRESS IN NEW YORK

The spring educational campaign goes ahead in New York with "wim and wigor." The corn-borer exhibit truck touring the regulatory counties is arousing considerable interest among the farmers. The first stop was in Niagara County where about 300 people visited it.

Arrangements have also been made for 10-minute talks on the corn borer from station WGR in Buffalo every Monday and Wednesday at 12.20 p.m. The first talk was given March 19.

Address communications to Information Division, Corn-Borer Control, Extension Service, United States Department of Agriculture, Washington, D. C.

INDIANA REVIEWS EDUCATIONAL WORK

Indiana has made a fine record on educational work conducted during the fall and winter. This includes:

10 county-fair exhibits where 71,200 people stopped to look and listen, and a very successful exhibit at the State fair.
212 low-cutting demonstrations attended by 1,378 farmers.
74 corn-borer meetings attended by 6,043 farmers.
342 farmers taken to Canada to inspect the damage there.
30,000 visitors to the exhibit truck.

Every township in the infested area was the scene of at least one corn-borer meeting. Farmers from 18 counties took the Canadian tours. Every county except one in the infested and border areas sent from 2 to 92 farmers on one of these tours. The exhibit truck, which aroused much interest wherever it went, will conclude its tour this week.

ALL's well With the Ship's Bell as Corn Borer Investigators Sail for Europe

K. M. Babcock and A. M. Vance of the Bureau of Entomology, Department of Agriculture, will sail for Europe April 1, to continue their work in collecting information regarding the relation of the various types of European corn farming to the existing infestation of the borer and determining the effect of such methods on the control of the pest.

A report of the work carried on for the past four years is now in process of publication and will be available soon under the title, "A Brief Review of the Investigations of Pyrausta nubilalis Hubn. in Central Europe, 1924 - 1927."

The countries where these studies will be carried on are Hungary, Yugoslavia, Roumania, Czechoslovakia, Germany, and Poland.

THE INSECTICIDE CONFERENCE

The insecticide conference held in Toledo, Ohio, March 16, was attended by 16 scientists working on insecticides as a corn-borer control measure. Ohio, Michigan, Indiana, Pennsylvania, and New York were represented, as well as the U. S. Department of Agriculture. Satisfactory arrangements were made for standardizing the work and making proper allocations to the different investigators who are planning work with insecticides as a part of their corn-borer investigations.

STUDIES ON "LIVING WITH THE CORN BORER"

The changes which the corn borer may make necessary in farm practices and its influence upon returns from farming occupy the attention of farm economists. The American Farm Economic Association has appointed a corn-borer committee, which has made a preliminary report outlining the research projects under way in the field of agricultural economics related to the corn borer and suggesting certain other projects which need attention. Several such studies are being made in the United States Department of Agriculture under the direction of H.R. Tolley and J. W. Tapp of the Bureau of Agricultural Economics in cooperation with the Bureau of Animal Industry, the Bureau of Public Roads, and the State agricultural experiment stations.

Work Under Way

(1) Considerable progress has been made in Michigan on the analysis of types of farming in the corn-borer area.

(2) Data as to present methods of harvesting corn and disposing of the stalks in the infested area are being collected and will be available for Ohio, Michigan, and Indiana this spring.

(3) A study of the requirements and costs of using the husker-shredder and the use of shredded stover in feeding livestock will be completed about the middle of the summer. This information is being obtained by personal interview from farmers who use husker-shredders.

Further Work Planned

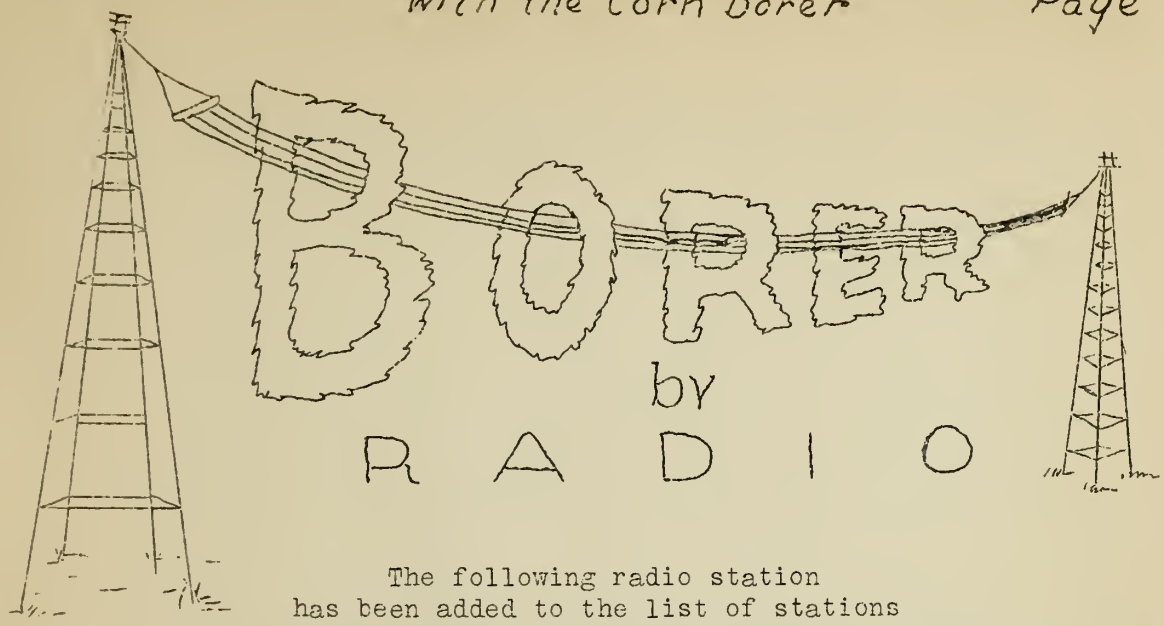
(1) A study of the labor and power required by the various control methods used in the 1927-28 season to determine the methods of control which are most economical for particular circumstances under actual farm conditions.

(2) A detailed study in one area to determine the conditions with respect to--

(a) damage by the borer and reduction in the yield of corn;
(b) labor and power for growing corn under corn borer conditions;
(c) reduction in yields of other crops because of delayed seeding or changes in methods of preparing the land; and
(d) relative prices for corn and other crops

under which it will be advantageous for farmers to substitute other crops for corn.

(3) Analysis of the long-time market outlook and production possibilities of some alternative crops which may be grown more extensively in the infested areas in the event that conditions warrant some reduction of corn acreage. The truck and canning crops will probably be considered first.



The following radio station has been added to the list of stations broadcasting the special series of corn-borer releases March 5 to April 30, making a total of 38 stations:

Wisconsin.....WKBH, La Crosse, Monday, 12 noon.

BROADCAST WEEK OF MARCH 19.

Out in the fields of stubble or stalks, and in the cornstalks, cobs, and ears about the barnyards and feed lots of farms in corn-borer infested regions the vanguard of the 1928 army of corn-borer vandals has camped through the winter.

The individual members of this army at this time of the year are fully grown caterpillars, each nearly an inch long and one-eighth of an inch thick. Their heads are dark brown or black. Colors of the upper surfaces of their bodies range from light brown to dark brown and to pink. Each division of a borer's body bears a row of small dark-brown spots, and lengthwise of the body extend several dark-brown or pink lines. The under side of the body is flesh colored.

These guerrillas of the insect tribe have spent the winter in tunnels within cornstalks, corncobs, or corn stubble. Small holes, usually plugged with the castings of the borer, appear on the surface of the plant to betray the entrances of the tunnels. Split open a stalk, a piece of stubble, or an ear bearing these tell-tale holes, and almost invariably borers will be found.

Each of the borers surviving the spring clean-up will become a moth next June. The average moth will lay some 400 eggs, which will hatch into borers. About 60 of each 400 will enter corn plants to join the myriads of borers which will take toll of this year's crop.

Last week's corn-borer broadcast from Station___described methods of clean plowing which have been found successful in killing off a large part of the spring vanguard of the borer army. This week we'll discuss ways and means of destroying borers that have spent the winter in barnyards

and feedlots. Let's just outline here the main points to be talked over. I'll put them as questions:

(1) Does the borer live through the winter in corn silage?

(2) Is the feeding of infested cornstalks an effective control?

(3) Does the borer live in cornstalks trampled in manure?

(4) Are cornstalks around the barnyard likely to shelter borers?

(5) How can cornstalks around the barnyard be disposed of to kill the borers?

And here are the answers:

First, THE SILO SPELLS SURE DEATH TO THE BORERS. Borers escaping the silage cutter are killed in the fermentation process. To insure a good kill in the silage cutter farmers cut the stalks in pieces not more than one-half inch long. This is especially important when for any reason the silage is not placed directly in the silo or is not fed soon after treatment. To obtain best results in the way of corn-borer control from ensiling corn the infested plants are cut as close to the ground and as early in the season as possible.

Making corn into silage is one of the best solutions of the problem of getting along with the borer. Farmers who ensiled corn last fall have much less spring clean-up work to do.

Second, feeding infested corn fodder to livestock is one of the most effective methods of fighting the pest. It also is a desirable farm practice. Except in cases of very bad infestation, the borers do not noticeably injure the food value of the fodder.

Feeding as finely cut, finely ground, or finely shredded fodder is the most effective practice. Running fodder through a husker-shredder machine kills from 98 to 100 per cent of the borers and at the same time makes the fodder more acceptable to the livestock. Tests have shown that good results follow the use of several types of shredders equipped with shredder heads, cutter heads, or combination shredder and cutter heads. Highest efficiency in killing borers comes from taking special care to apply sufficient pressure on the snapping rolls to produce a crushing effect and prevent long pieces of the fodder from being whirled through the head without being finely cut or shredded.

Most of the borers that escape death in the machine perish during the process of storing the shredded material, feeding it to livestock, and using the residue as bedding which is trampled into the manure.

The ordinary cutting box has not proved very effective for borer control, even when adjusted so as to cut the stalks in pieces not more than one-half inch long.

Third, borers do not live in cornstalks completely trampled under and covered with manure. Experiments on infested farms have shown in general that practically all corn borers perish when infested cornstalks or other corn remnants are covered by wet manure to depths ranging from 10 to 12 inches, or when such infested material is covered completely by lesser quantities of manure and trampled by livestock.

But it should be remembered that large numbers of the borers will survive in any pieces of cornstalk left sticking out of the manure. Borers crawl to the surface from submerged stalks and take refuge in exposed pieces of plant material. Hence, large uneaten pieces of corn fodder should ordinarily be kept off the manure unless they will be trampled by livestock or it is possible to work them deeply into the manure.

Fourth, IF your corn was all ensiled; IF it was all shredded; IF it all has been trampled deep below the surface in the barnyard muck; and IF there are no pieces of cornstalks or cobs about your barnyard or feed lots, this answer won't interest you. Probably, however, one of the IF's finds your barnyard or feed lot wanting, so you'll be interested to know that it is dangerous where conditions are favorable for the corn borer, to allow cornstalks and cobs to accumulate around the barnyard or feed lot. An examination of the cornstalks in the barnyards and on the surfaces of manure piles of typical farms in Lucas County, Ohio, last spring showed as many as 256 borers in 1,000 feet of cornstalks.

Trampling, freezing, and the ordinary wear and tear on stalks in the barnyard do not kill many of the borers. They will take shelter in the corn remnants left about, and large numbers will produce moths which will fly forth in June to lay the eggs from which the 1928 pests will hatch.

Fifth, and finally, the best way to lower the hazard represented by stalks around the barnyard and feed lot is -----BURNING. No borer survives a good burning. This is the surest control method. The stalks, cobs, husks, and other pieces of plant material can be raked into a pile and burned as soon as they are dry enough.

The important thing to remember is this:

BEFORE THE MOTHS EMERGE ALL CORN REFUSE ABOUT BARNYARD OR FEED LOT MUST BE CLEANED UP. MAY 1 IS A GOOD, SAFE DATE. THE CLEAN-UP SHOULD NOT BE DELAYED PAST JUNE 1.

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